Document details

Back to results | 1 of 1

Proceedings of the 2018 7th International Conference on Computer and Communication Engineering, ICCCE 2018
16 November 2018, Article number 8539283, Pages 449-452
7th International Conference on Computer and Communication Engineering, ICCCE 2018; Kuala Lumpur; Malaysia; 19 September 2018 through 20 September 2018; Category numberCFP1839D-USB; Code 142740

Smart Steering Auto Alert System (Conference Paper)

Muin, M.F.A., Zarbah, N.F.

Department of Electrical and Computer Engineering, International Islamic University Malaysia, Kuala Lumpur, Malaysia

Abstract

View references (6)

Drivers can easily be distracted by their handheld devices while they are driving and this ultimately contributed to the increase of road accidents. This work proposed a steering wheel cover that is designed using an array of touch sensors TTP223 and Raspberry Pi 3 microprocessor. A tilt sensor is also incorporated in order to mimic the movement of the system . Using Python as the main programming language and the Raspbian OS, for a sample size of 40 touch inputs, the system yielded an accuracy of 97.5 % and 75.0 % in its input detection during stationary and driving mode. The results have shown that as a proof of concept, the proposed system is capable of detecting touch inputs from the user's hand and determining the position of the hands on the steering wheel. © 2018 IEEE.

SciVal Topic Prominence

Topic: Feedback | Display devices | vibration patterns

Prominence percentile: 91.768

Author keywords

Raspberry Pi | Touch sensors

Indexed keywords

Engineering controlled terms: Contact sensors | Wheels

Engineering uncontrolled terms: Alert systems | Driving mode | Hand held device | Proof of concept | Raspberry pi | Steering wheel | Touch inputs | Touch sensors

Engineering main heading: Automobile steering equipment

ISBN: 978-153866991-4 DOI: 10.1109/ICCCE.2018.8539283

Source Type: Conference Proceeding
Original language: English
Document Type: Conference Paper
Publisher: Institute of Electrical and Electronics Engineers Inc.

Proceedings

View all related documents based on references

Find more related documents in Scopus based on:

Authors > Keywords >

References (6)

View in search results format >

All | Export | Print | E-mail | Save to PDF | Create bibliography

1 Herman, J., Kafoa, B., Wainiqolo, I., Robinson, E., McCaig, E., Connor, J., Jackson, R., (...), Ameratunga, S.
(2017) Driver Sleepiness and Risk of Motor Vehicle Crash Injuries: A Population Based Case Control Study in Fiji (TRIP 12)

2 Bakar, A.A.
MRR 201 using mobile phone while driving as a contributing factor to road crashes among motorist in klang valley
(2016) Malaysian Institute of Road Safety Research

3 Ibragimova, E., Mueller, N., Vermeeren, A., Vink, P.
The smart steering wheel cover: Motivating safe and efficient driving
(2015) Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems, p. 169.
April ACM

4 Zhang, Y., Laput, G., Harrison, C.
Electrick: Low-cost touch sensing using electric field tomography

(2017) Conference on Human Factors in Computing Systems - Proceedings, 2017-May, pp. 1-14. Cited 22 times.
ISBN: 978-145034655-9
doi: 10.1145/3025453.3025842

View at Publisher

5 Wei, K., Qiu, C.-H., Primrose, K.
Super-sensing technology: Industrial applications and future challenges of electrical tomography (Open Access)

(2016) Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 374 (2070), art. no. 20150328. Cited 8 times.
http://rsta.royalsocietypublishing.org/content/roypta/374/2070/20150328.full.pdf
doi: 10.1098/rsta.2015.0328

View at Publisher

6 (2018) Raspberry Pi-Raspberry Pi Add-ons Guide Requirements Raspberry Pi Learning Resources
https://www.raspberrypi.org/learning/addonsguide/components/raspberrypi/

Zarbah, N.F.; Department of Electrical and Computer Engineering, International Islamic University Malaysia, Kuala Lumpur, Malaysia; email:adah510@iium.edu.my